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## PRE-APPEAL BRIEF REQUEST FOR REVIEW

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| | **Docket Number (Optional)**<br>18602-08906 (P3331US1) |

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| I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]<br><br>on _____<br><br>Signature_____<br><br>Typed or printed name _____ | **Application Number**<br>10/826,973 | **Filed**<br>April 16, 2004 |
| | **First Named Inventor**<br>Gregory E. Niles | |
| | **Art Unit**<br>2628 | **Examiner**<br>Jason Michael Repko |

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
　　　Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☑ attorney or agent of record.
Registration number ___55,687___

☐ attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 _____

/Sabra-Anne Truesdale/
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December 21, 2010
_____
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

☑ *Total of ___one___ forms are submitted.

<u>ATTACHMENT TO THE PRE-APPEAL BRIEF REQUEST FOR REVIEW</u>

Pre-appeal brief review is requested because the rejections of record are clearly improper and without proper factual or legal basis. Applicant respectfully requests that the panel reverse these rejections and allow claims 116, 121-123, 125-128, 130-133, and 135-137.

## I.  <u>Status of the Claims</u>

Claims 116, 121-123, 125-128, 130-133, and 135-137 are pending in this application. In the final office action dated August 23, 2010, all pending claims were rejected. Applicant has appealed the rejection of claims 116, 121-123, 125-128, 130-133, and 135-137 (i.e., all pending claims).

## II.  <u>Rejection of Claims 116, 121-123, 125-128, 130-133, and 135-137</u>

Claims 116, 121-123, 125-128, 130-133, and 135-137 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,714,201 to Grinstein et al. ("Grinstein") in view of "Control Techniques for Physically-Based Animation" by Michiel van de Panne ("van de Panne").

<u>Claims 116 and 121-122</u>

As pending, claim 116 recites:

In a computer-implemented animation system, a method for animating an object, the method comprising:
> receiving an input specifying a Random Motion behavior, the Random Motion behavior indicating
>> how to change a value of a position parameter of the object over time based on a partially-random motion path and a speed at which the object moves along the motion path, wherein the speed is specified by a drag parameter that shrinks or enlarges the motion path as a whole without changing the shape of the motion path, and wherein a length of the motion path is specified by an amount parameter wherein a higher value of the amount parameter results in the motion path being longer and the object moving faster, and wherein a shape of the motion path is determined by a random seed, a noisiness parameter that determines a level of jaggedness along the motion path, and a frequency parameter that determines a crookedness of the motion path, wherein a higher value of the frequency parameter results in the motion path having more turns, and wherein a lower value of the frequency parameter results in the motion path being straighter;
> animating the object by changing the value of the position parameter of the object over time
>> according to the Random Motion behavior; and
> outputting the animated object.

As described in the pending application (¶¶689-700[1]; FIGS. 53-56), the Random Motion behavior affects an object's Position parameter (¶690). If a user applies the Random Motion behavior to an object, the behavior animates the position of the object and makes the object move around the Canvas along a partially-random path (¶690). FIG. 53 illustrates an object 12 and a Random Motion motion path 530 (¶690).

Note that the Random Motion behavior is not completely random. In one embodiment, the motion created with this behavior is actually affected by a particular group of parameters (¶691). As long as the parameters (and random seed number) don't change, the motion path created by the behavior will remain the

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[1] Paragraph citations are to the application as published (2005-0231512).

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same (¶691). In order to randomly generate a different motion path, a Generate button can be clicked to pick a new random seed number (¶691). The new random seed number is then used to generate a new motion path, in conjunction with the group of parameters (¶691).

Applying the Random Motion behavior to an object causes the object to move along a particular motion path with a particular speed. Claim 116 states that the Random Motion behavior can be configured using various parameters. Specifically, the speed at which the object moves along the motion path is specified by a drag parameter that shrinks or enlarges the motion path as a whole without changing the shape of the motion path (¶698). Also, the length of the motion path is specified by an amount parameter wherein a higher value of the amount parameter results in the motion path being longer and the object moving faster (¶695).

Claim 116 recites, in part, "receiving an input specifying a Random Motion behavior, the Random Motion behavior indicating how to change a value of a position parameter of the object over time based on a partially-random motion path and a speed at which the object moves along the motion path, wherein the speed is specified by a drag parameter that shrinks or enlarges the motion path as a whole without changing the shape of the motion path" (emphasis added).

The hypothetical combination of Grinstein and van de Panne does not disclose, teach, or suggest this claimed element.

Examiner argues that Grinstein's gain and bias parameters correspond to the claimed element "drag parameter" (Detailed Action, pages 3 and 11-12). Specifically, Examiner argues that the gain or bias parameters affects the momentum (and therefore the speed) with which the object moves along the partially-random motion path, thereby shrinking or enlarging the motion path as a whole (Detailed Action, pages 3 and 11-12). Applicant disagrees because Grinstein's gain and bias parameters are used with boundary behaviors, and boundary behaviors are incompatible with a partially-random motion path.

In Grinstein, a "boundary" is a geometric entity that defines a surface or volume and can interact with a Motion (18:17-19). A boundary can represent a graphic object, a virtual object, or a region of space (18:27-29). When a Motion's behavior is constrained by an interaction with a boundary, it is referred to as a "boundary behavior" (35:21-36:28). A boundary behavior's "gain" and "bias" parameters can be used to simulate effects of gain or loss of momentum (e.g., due to friction) (36:17-20).

A boundary behavior is triggered when an object's trajectory crosses or encounters a boundary (35:32-36:12). Claim 116 states that the object's speed is specified by the drag parameter. If an object is to be constantly affected by a behavior's gain or bias parameters as the object moves (e.g., so that the object's speed can be specified), then the object's trajectory must constantly cross or encounter a boundary. In claim 116, since the object's motion path is partially-random, the necessary locations of the boundaries will also be partially-random. There is no guarantee that the boundaries will be located such that the object's trajectory

will constantly cross or encounter them and thereby cause the object to be constantly affected by the gain or bias parameters.

Grinstein does say that a Motion can have a boundary attribute, which defines a surface or volume that travels with the point defined by the Motion's position attribute (18:19-22). So, one might think that a boundary behavior's gain or bias parameters could be applied to an object constantly. However, in order to affect the object's momentum, the boundary cannot be "applied" to the object itself (e.g., be a boundary attribute of a Motion applied to the object). If the boundary were applied to the object itself, then the boundary would travel with the object, and the object's trajectory would never cross or encounter the boundary (which is needed to trigger the boundary behavior). Instead, in order to trigger the boundary behavior, the boundary must exist separate from the object so that the object's trajectory can cross or encounter the boundary. Thus, Grinstein's gain and bias parameters are incompatible with a partially-random motion path.

Examiner argues that Grinstein provides examples, such as Swing, Shake, and Wander in section 6.2.8, that use the boundary behaviors to affect the motion path as a whole (Detailed Action, page 11). Applicant disagrees. The examples in section 6.2.8 do not discuss boundaries or boundary behaviors at all. Rather, the examples are related to Grinstein's entire OpenMotion API. This makes sense, since section 6.2 is entitled "OpenMotion API Programmer's Guide" (15:27) and section 6.2.7 is entitled "Boundaries" (32:27-36:28). Section 6.2.8, entitled "Examples" (36:29-38:52), is a completely different section from section 6.2.7.

Examiner also argues that Grinstein's gain and bias can be applied to any behavior, citing 36:27-28 (Detailed Action, page 11). Applicant disagrees. Grinstein clearly states that the gain and bias parameters must be used with a boundary behavior (36:21-22).

Examiner also cites Grinstein's Table 23 in columns 35 and 36 (Detailed Action, page 11). Table 23 is entitled "Boundary behaviors" and therefore describes parameters (such as gain and bias) that are used with boundaries.

Thus, Grinstein's gain and bias parameters cannot correspond to the claimed element "drag parameter".

Van de Panne does not remedy this deficiency. Van de Panne discusses drawing an arbitrary path for a figure to follow (page 83), a curved path taken by a supporting foot (page 86), and path-following control (page 100). However, van de Panne does not disclose, teach, or suggest treating a motion path as its own entity and shrinking or enlarging the motion path as a whole.

Since neither Grinstein nor van de Panne discloses, teaches, or suggests the claimed element, it follows that the hypothetical combination of Grinstein and van de Panne also does not disclose, teach, or suggest the claimed element.

Therefore, claim 116 is patentable over the hypothetical combination of Grinstein and van de Panne.

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Independent claims 121-122 recite similar language and are also patentable over the hypothetical combination of Grinstein and van de Panne for at least the same reasons.

Claims 123, 125-128, 130-133, and 135-137

As pending, claim 123 recites:

In a computer-implemented animation system, a method for animating an object, the method comprising:
    receiving an input specifying a Random Motion behavior, the Random Motion behavior indicating how to change a value of a position parameter of the object over time based on a partially-random motion path, wherein a shape of the motion path is determined by a random seed and a frequency parameter that determines a crookedness of the motion path, wherein a higher value of the frequency parameter results in the motion path having more turns, and wherein a lower value of the frequency parameter results in the motion path being straighter;
    animating the object by changing the value of the position parameter of the object over time according to the Random Motion behavior; and
    outputting the animated object.

As described in the pending application (¶¶689-700; FIGS. 53-56), the Random Motion behavior affects an object's Position parameter (¶690). If a user applies the Random Motion behavior to an object, the behavior animates the position of the object and makes the object move around the Canvas along a partially-random path (¶690). FIG. 53 illustrates an object 12 and a Random Motion motion path 530 (¶690).

Note that the Random Motion behavior is not completely random. In one embodiment, the motion created with this behavior is actually affected by a parameter (¶691). As long as the parameter (and random seed number) doesn't change, the motion path created by the behavior will remain the same (¶691). In order to randomly generate a different motion path, a Generate button can be clicked to pick a new random seed number (¶691). The new random seed number is then used to generate a new motion path, in conjunction with the parameter (¶691).

Claim 123 states that the Random Motion behavior can be configured using a parameter. Specifically, the shape of the motion path is determined by a random seed and a frequency parameter. Applying the Random Motion behavior to an object causes the object to move along a particular motion path. This motion path is largely random (e.g., based on the seed number), but its crookedness can be configured by specifying a value for the frequency parameter. A higher value of the frequency parameter results in the motion path having more turns, and a lower value of the frequency parameter results in the motion path being straighter.

Claim 123 recites, in part, "receiving an input specifying a Random Motion behavior, the Random Motion behavior indicating how to change a value of a position parameter of the object over time based on a partially-random motion path, wherein a shape of the motion path is determined by a random seed and a frequency parameter that determines a crookedness of the motion path, wherein a higher value of the frequency parameter results in the motion path having more turns, and wherein a lower value of the frequency parameter results in the motion path being straighter" (emphasis added).

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The hypothetical combination of Grinstein and van de Panne does not disclose, teach, or suggest this claimed element.

Examiner admits that Grinstein does not disclose, teach, or suggest the claimed element "frequency parameter" (Detailed Action, page 5). It follows that Grinstein does not disclose, teach, or suggest the claimed element "wherein a shape of the motion path is determined by a random seed and a frequency parameter that determines a crookedness of the motion path."

Van de Panne does not remedy this deficiency. Van de Panne discusses control techniques for physically-based animation (title). Specifically, a parameterized controller for periodic turning motions (such as in alpine skiing and bicycling) is presented (page 83, line 3; page 84, lines 5-6). The control scheme places three variables under the animator's control: $\omega_0$ (turn frequency), $\theta_{max}$ (turn sharpness), and $\theta_h$ (general heading of the turns) (page 94, §5.5, lines 2-6).

Examiner argues that van de Panne's $\omega_0$ variable (turn frequency) corresponds to the claimed element "frequency parameter" and suggests combining Grinstein with van de Panne (pages 6-7). In particular, Examiner argues that "Grinstein's animated ball could be under the (partially random) directional control given by randomDir and be oscillating back and forth along the motion path (shown in Panne at Figure 5.9) according to an additional frequency parameter taught by Panne (implemented as a parameter in Grinstein's API)" (page 7).

Applicant disagrees. The Random Motion behavior does not move an object in a random direction and then oscillate the object in a non-random way. Rather, the Random Motion behavior creates a partially-random motion path and then moves the object along that path. For example, see the motion path 530 shown in FIG. 53.

Therefore, claim 123 is patentable over the hypothetical combination of Grinstein and van de Panne.

Independent claims 128 and 133 recite similar language and are also patentable over the hypothetical combination of Grinstein and van de Panne for at least the same reasons. Claims 125-127, 130-132, and 135-137 depend from claims 123, 128, and 133, respectively, and are also patentable over the hypothetical combination of Grinstein and van de Panne for at least the same reasons.

## III.    Summary

Based on the foregoing, Applicant respectfully submits that the pending rejections suffer from a clear deficiency in the prima facie case asserted in support of the rejection. Accordingly, Applicant requests that the rejection of claims 116, 121-123, 125-128, 130-133, and 135-137 be withdrawn.

Respectfully submitted,

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